REMARKS

[0001] The following paragraphs are numbered for ease of future reference. Claims 1-21 are all the claims presently pending in this application. Claims 1-2 and 4-9 have been amended to more particularly define the claimed invention.

[0002] Applicant further respectfully submits that no new matter is added to the currently amended claims. Applicant respectfully traverses the rejections based on the following discussion.

I. REJECTION UNDER 35 U.S.C. §101

[0003] Claims 1-7 have been rejected under 35 U.S.C. §101 as being directed toward non-statutory subject matter as not (1) being tied to a particular machine or apparatus, or (2) transforming a particular article to a different state or thing.

[0004] Applicant's amendment to independent claim 1 satisfies the two corollaries of the "**machine-or-transformation**" test of *In re Bilsky*, since the amendment: 1) is not merely field-of-use limitation by imposing meaningful limits on the method claim's scope; and 2) does not merely add insignificant extra-solution activity by reciting a specific machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting. See *In re Bilski*, 545 F.3d 943, 88 USPQ2d 1385 (Fed. Cir. 2008).

[0005] Specifically, Applicant has amended claim 1 to recite, a "*computer-implemented method...*," and ties the relevant methods to be accomplished by "*a computing device*." In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II. THE PRIOR ART REJECTION

The 35 U.S.C. § 103(a) Rejection over Bahl further in view of Lee

[0006] Claims 1-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bahl et al., "A tree-based statistical language model for natural language speech recognition", (hereinafter "Bahl"), further in view of Lee et al., U.S. Pat. No. 6848080, (hereinafter "Lee").

[0007] The Examiner alleges that one of ordinary skill in the art would have been motivated to modify Bahl with the teaching from Lee to form the invention of claims 1-21. Applicant submits, however that these references would not have been combined and even if combined, the combination would not teach or suggest each element of the claimed invention.

[0008] Applicant traverses the Examiner's rejection since, among other reasons, Bahl is directed toward predicting the 21st word of a 21-gram, given the first 20 words, by constructing a tree with pylonic questions using the tree-growing and set-construction algorithms by adding one group of words at a time. Lee is directed toward translating multilingual strings of words with two discrete typing models by computing probabilities that an entered text string is likely to be a first language or a second language. However, Applicant's claimed invention is directed toward determining a probability of a next word in a mixed language expression, wherein the probability of the next word predicts a next word in a first language to replace a word in at least one other language in the mixed language expression.

[0009] More specifically, Applicant submits, that neither Bahl, nor Lee, nor any alleged combination thereof, teaches or suggests, "*said probability of said next word predicts a next word in said first language to replace a word in said at least one other language in said mixed*

language expression," per Applicant's independent claim 1, and similarly, independent claims 8-9.

[0010] For the record, the Examiner on page 4 of the Non-Final Office Action alleges Bahl discloses, "generating a monolingual word history in the first language based upon a mixed language word history and using the stored word equivalence probabilities, wherein said mixed language word history comprises words in said first language and words in said at least one other language, and wherein said mixed language word history and said monolingual word history each comprise a history of previous words in a sentence-based word sequence," and then on page 5 of the Non-Final Office Action states that "Bahl fails to teach… generating a monolingual word history in the first language based upon a mixed language word history…". Applicant believes that the Examiner erred in alleging that Bahl teaches or suggests this portion of Applicant's claimed invention since, 1) nowhere in the passage cited by the Examiner on page 4 of the Non-Final Office Action, i.e., "Page 1001 Col. 2" is there any teaching or suggestion of "*mixed language word history comprising words in a first language and words in at least one other language*," since Bahl is only concerned with predicting words in a single language; and 2) the fact that the Examiner admitted on page 5 of the Non-Final Office Action that Bahl fails to teach or suggest this portion of Applicant's claimed invention.

[0011] The Examiner additionally admits that "Bahl fails to teach storing word equivalence probabilities relating to words of a first language and words in at least one other language…said probability of said next word predicts a next word in said mixed language expression."

[0012] The Examiner alleges that "Lee teaches mutually dependent probability of two language [sic] as well as individual probabilities of one language (Lee Col. 9 lines 58-65), wherein the next characters and sequence of words are predicted (Lee Col. 11 lines 2-17)."

[0013] First, Lee's disclosure at column 9, lines 58-65 merely discloses finding the most probable target translation language string, (i.e., Chinese), given an input language string, (i.e., Pinyin).

> In the context of converting Pinyin to Hanzi, the probability P(w|s) can be restated as P(H|P), where H represents a Hanzi string and P represents a Pinyin string. The goal is to find the most probable Chinese character H', so as to maximize P(H|P). Thus, the probability P(H|P) is the likelihood that an entered Pinyin string P is a valid Hanzi string H.

[0014] Lee's disclosure at column 11, lines 2-17 merely discloses a trigram model that considers the two most previous characters in a text string to predict the next character of a monolingual word string.

[0015] However, Lee fails to teach or suggest *determining the probability of said next word that predicts a next word in said first language to replace a word in said at least one other language in said mixed language expression*. Lee is merely concerned with translating the primary language of the text (Pinyin) into a secondary language text (Hanzi), while text strings that are determined to be in a third language (English) are merely copied in place into the secondary language text (Hanzi). Nowhere in Lee is there any teaching or suggestion that "previous text to provide sentence-based context," (column 16, lines 13-14), is used to predict a (next) word, in either Pinyin or Hanzi, to replace a word in the English – or *visa versa*, to predict a (next) word, in English, to replace a word in either Pinyin or Hanzi, since Applicant's claimed "*mixed language word history*" is alleged by the Examiner to be the initial combination of Pinyin and English. Therefore, Lee fails to overcome the deficiencies of Bahl.

[0016] In summary, Lee is directed toward translating multilingual strings of words with two discrete typing models by computing probabilities that an entered text string is likely to be a first language or a second language. Phonetic text items determined to have a high probability of

being English are merely copied to the output text, while typing errors are corrected by looking at previous text to provide and generate conversion candidates of language text, (column 6, lines 11-16). However, Applicant's claimed invention is directed toward *determining a probability of a next word in a mixed language expression, wherein the probability of the next word predicts a next word in a first language to replace a word in at least one other language in the mixed language expression*.

[0017] Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection since the alleged prior art references to Bahl and Lee (either alone or in combination) fail to teach or suggest each element and feature of Applicant's claimed invention.

III. FORMAL MATTERS AND CONCLUSION

[0018] In view of the foregoing, Applicant submits that claims 1-21, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

[0019] Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic interview.

[0020] The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 09-0441.

Respectfully Submitted,

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